PATENT APPLICATION TRANSMITTAL LETTER
(Small Entity)

Docket No.
BRO039/4-001

TO THE ASSISTANT COMMISSIONER FOR PATENTS

Transmitted herewith for filing under 35 U.S.C. 111 and 37 C.F.R. 1.53 is the patent application of:

James J. Crow

For:

System of Automated Configuration of Network Subscribers for Broadband Communication

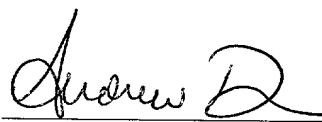Enclosed are:

- ☒ Certificate of Mailing with Express Mail Mailing Label No.   EL 367133744 US
- ☒ **Three (3)**   sheets of drawings.
- ☐ A certified copy of a   application.
- ☒ Declaration   ☒ Signed.   ☐ Unsigned.
- ☒ Power of Attorney
- ☐ Information Disclosure Statement
- ☐ Preliminary Amendment
- ☒   Verified Statement(s) to Establish Small Entity Status Under 37 C.F.R. 1.9 and 1.27.
- ☒ Other: **Assignment**

CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	29	- 20 =	9	x $9.00	$81.00
Indep. Claims	3	- 3 =	0	x $39.00	$0.00
Multiple Dependent Claims (check if applicable) ☐					$0.00
				BASIC FEE	$345.00
				TOTAL FILING FEE	$426.00

- ☒ A check in the amount of   **$466.00**   to cover the filing fee is enclosed.
- ☒ The Commissioner is hereby authorized to charge and credit Deposit Account No.   **22-0365**
  as described below. A duplicate copy of this sheet is enclosed.
  - ☐ Charge the amount of   as filing fee.
  - ☒ Credit any overpayment.
  - ☒ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
  - ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance,
    pursuant to 37 C.F.R. 1.311(b).

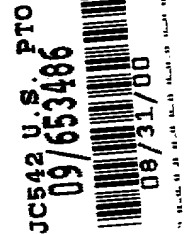Dated: **August 31, 2000**

_____
Signature

cc:

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August 31, 2000

<u>*Via U.S. Express Mail No. EL367133744US*</u>

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

> Re: U.S. Patent Application Entitled *"System of Automated Configuration of Network Subscribers for Broadband Communication"* by James J. Crow;
> Our Ref. No. BRO039/4-001

Sir:

Enclosed for filing in connection with the above-referenced patent application are the following:

1. Patent Application Transmittal Letter;
2. Application for Letters Patent;
3. Declaration;
4. Declaration Claiming Small Entity Status;
5. Election Under 37 C.F.R. §§ 3.71 and 3.73 and Power of Attorney;
6. Assignment;
7. Check in the amount of $466; and
8. Return postcard to acknowledging receipt of these documents. Please date stamp and mail this postcard upon receipt.

Should any additional fees under 37 C.F.R. § 1.16 to 1.21 be deemed necessary for any reason relating to the enclosed materials, the Assistant Commissioner is hereby authorized to deduct said fees from VINSON & ELKINS L.L.P. Deposit Account No. 22-0365.

Respectfully submitted,

Andrew G. DiNovo
Reg. No. 40,115

AGD:ddb

Assistant Commissioner For Patents
August 31, 2000
Page 2

Encl.

cc: James J. Crow
        J. Wesley Jones

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: James J. Crow	Group Art Unit: Unknown
Serial No.: Unknown	Examiner: Unknown
Filing Date: August 30, 2000	Atty. Dkt. No.: BRO039/4-001

For: SYSTEM OF AUTOMATED CONFIGURATION OF
    NETWORK SUBSCRIBERS FOR BROADBAND
    COMMUNICATION	

DECLARATION CLAIMING SMALL ENTITY STATUS

Via Express Mail No. EL 367133744US

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

I hereby declare that I am an official empowered to act on behalf of the organization identified below:

Name of Organization: Broadjump, Inc.

Address of Organization: 9715 Burnet Road, Bldg. 6, Suite 500
                             Austin, Texas 78758

The type of organization is a Texas corporation.

I hereby declare that the organization identified above qualifies as a small business concern as defined in 37 C.F.R. § 1.9(e) (1), and thus is a "small entity" as defined in § 1.9(f), for purposes of paying reduced fees under Sections 41(a) and (b) of Title 35, United States Code, with regard to the above-referenced application.

I hereby declare that exclusive rights to the invention have been conveyed to and remain with the organization, with respect to the above-referenced invention, nor have I assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR § 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR.§ 1.9(d) or a nonprofit organization under 37 CFR § 1.9(e), with the exception that the Government may have rights in the invention pursuant to a funding agreement under 35 U.S.C. § 202(c)(4):

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

BROADJUMP, INC.

By: _____

Name: James J. Crow

Title: Chief Technology Officer

Date: _Aug 30, 2000_____

5

APPLICATION FOR UNITED STATES LETTER PATENT

FOR

10   SYSTEM OF AUTOMATED CONFIGURATION OF NETWORK SUBSCRIBERS

FOR BROADBAND COMMUNICATION

By

15   JAMES J. CROW

NUMBER: _____ EL 367133744 US _____

DATE: _____ August 31, 2000 _____

SYSTEM OF AUTOMATED CONFIGURATION OF NETWORK SUBSCRIBERS

FOR BROADBAND COMMUNICATION

Field of the Invention

5   The invention relates generally to the fields of digital communications and computer maintenance, and more specifically to a system and method for configuring personal computer systems for broadband communication.

Related Art

10   As Internet access becomes increasingly important and prevalent in our day-to-day lives, computer component manufacturers, software developers, and Internet service providers ("ISPs") continue to seek faster ways to communicate information across the Internet. The emergence of broadband technology, including DSL, ISDN, cable modems, and other broadband communication schemes are due in large part to this common goal.

15   "DSL" refers to various types of digital subscriber lines, the two main categories being "ADSL" and "SDSL". DSL technologies use modulation schemes to pack data onto existing copper telephone lines ("POTS"). DSL typically requires a short run to a central telephone office or stations, usually less than 20,000 feet. To access DSL, the user must install and configure a specially-adapted DSL modem.

20   "ISDN" is an abbreviation for integrated services digital network, an international communications standard for sending voice, video, and data over either digital telephone lines or POTS. ISDN supports data transfer rates of 64 Kbps (64,000 bits per second). Most ISDN lines offered by telephone companies offer two lines called B channels. One line may be used for voice and the other for data, or both lines may be used for data, 25   resulting in data rates of 128 Kbps.

        In a "Data over Cable" configuration, a cable modem operates over standard coaxial cable TV lines. Because the coaxial cable used by cable TV provides greater bandwidth than telephone lines, a cable modem can be used to achieve extremely fast access to the Internet. Cable modems that offer speeds up to 2 Mbps are currently 30   available in select areas.

A problem common to all of the various broadband communication techniques is that the user's computer must be specially configured to access the service. Typically, a special modem must be configured, appropriate drivers installed, accounts established and other steps taken to implement the communication link. To compound the problem,

5   all variations of broadband communication may not be available in a given locale. Moreover, because computer systems are very seldom sold ready for broadband communication, configuration often requires a service person to visit the physical location of the computer to configure it for access to a broadband network.

It has therefore become desirable to develop a new, automated method and system

10   for configuring personal computers for broadband communication, as accomplished by the present invention.

Brief Description of the Drawings

The present invention is illustrated by way of example and not limitation in the

15   accompanying figures, in which like references indicate similar elements, and in which:

FIG. 1 is an exemplary block diagram of a personal computer's Internet access configuration containing narrowband access systems as well as broadband access systems;

FIG. 2 is a block diagram of an embodiment of the customer acquisition phase of

20   the process automation of the present invention;

FIG. 3 is a block diagram of the service availability phase of the process automation of the present invention;

FIG. 4 is a block diagram of the order fulfillment phase of the process automation of the present invention; and

25   FIG. 5 is a block diagram of the subscriber conversion phase of the process automation of the present invention.

Description of the Preferred Embodiment

The following discussion is intended to provide a detailed description of at least

30   one embodiment of the invention and should not be taken to limit the scope of the

invention itself. Rather, any number of variations may fall within the scope of the invention which is properly defined in the claims following this description.

5   The invention relates to an enhanced system and method for enabling personal computer to access to a broadband communication network using a more streamlined, automated process, as set forth in detail below.

There are many individual requirements for a successful subscription to a consumer broadband Internet service. Each of these requirements must be managed in concert to successfully achieve order fulfillment, software and hardware installation and account establishment. This process may be broken down into individual tasks and
10   automated through the use of a software framework, such as the one described in U.S. Patent Application Serial No. 09/542,602, entitled "Broadband Service Control Network," filed April 4, 2000 (the "'602 application"), and incorporated herein by reference in its entirety. The automation framework therein disclosed may be used to control the various detection, testing, configuration and fulfillment tasks to provide a
15   seamless and efficient process flow.

Fig. 1 depicts an exemplary consumer Internet installation, and illustrates the primary requirements for access of a broadband network. This figure illustrates a typical consumer internet access network with both narrowband (analog dial-up modem) and broadband support. The subscriber computer **1** contains a modem that supports
20   narrowband **2** and broadband **3** or **11**. In addition, narrowband modem **2** has physical access to narrowband access network **7**, and broadband modem **3** or **11** has physical access to broadband access network **8**. In this example, the narrowband modem **2** is an industry standard analog modem device commonly used for consumer narrowband Internet access. The narrowband modem **2** utilizes the narrowband access network **7**,
25   typically the POTS of the public dial-up telephone network, to gain access to an Internet Service Provider ("ISP") **5** and through that provider, the Internet **9**.

Still referring to **Fig. 1**, the broadband modem device **3** or **11** is an instance of a common broadband modem device installed within the subscriber computer **1**. Alternatively, the broadband modem device **11** may be an external device. In the case of
30   the external broadband modem **11**, an Ethernet Network Interface Card **10** may be used to communicate with the external broadband modem **11**. No distinction is made as to the

broadband technology used by the broadband modem **3, 11** or the broadband access network **8**. For the purposes of this invention, all broadband Internet access technologies such as IDSL, DSL, and Data over Cable or wireless are equally applicable. Automation agent software **4** will be discussed below in connection with DSL to illustrate the present

5   invention.

Note that the narrowband and broadband networks and access devices are shown to be present together in **Fig. 1** with dual access as a possibility. While this is not the typical model, this is possible through dual-modem cards. Furthermore, the present invention allows for the simultaneous presence of narrowband and broadband devices

10 and provides for automated management of the subscriber system to use narrowband as a backup scenario should the broadband connection fail.

ISPs may provide narrowband access, broadband access, or both. Moreover, different types of broadband access may be provided. For purposes of discussion, the ISP **5** in the example is assumed to provide both narrowband access and broadband access to

15 the same network resources, using the same basic subscriber account information. This model allows for minimal impact for the subscriber after the narrowband to broadband conversion. Consequently, the subscriber's email address and other account information would be able to remain the same with only the billing information and physical network details changing between the two access methods.

20 Also present in this example are automation agent **4** and automation server software **6** modules, which can be of the type described the '602 application, which is incorporated herein by reference in its entirety. The automation agent software **4** may be an embodiment of the "Active Agent" module as described in the '602 application, with additional logic to automate the requested broadband configuration and/or conversion

25 process. Such additional logic is discussed below.

Similarly, the automation server **6** may be an embodiment of the "Service Mediator" module described in the '602 application, with extensions to control the automation agent software **4** in this network. Consistent with the '602 application, two optional deployment models are shown in **Fig. 1**. The ISP **5** may deploy the automation

30 server **6** directly within its network. This model is indicated by the line connecting the ISP **5** to the automation server **6**. Alternatively, the automation server **6** could be located

outside of the ISP network and utilize the Internet **9** as its connection mechanism. This model is indicated by the connection lines between the Internet **9** and the automation server **6**.

Fig. 2 shows the first phase of the automated process--the customer acquisition phase. Broadband networks are typically not deployed to allow 100 percent access to all potential subscribers within a geographic region. Instead, broadband technology is typically deployed in a pattern such that discrete metropolitan areas are enabled for service by a localized upgrade of networking equipment by the broadband access provider. This deployment model means that a set of consumers may not initially qualify for broadband access service but may qualify later in time as the network is systematically upgraded. The process of acquiring this customer in a proactive manner is the initial process automation phase of this invention. Note that there are multiple models for this customer acquisition phase. Existing narrowband customers may be converted to broadband through this mechanism. New installations are also supported where no existing network connection exists and the customer is initially configured for broadband access.

Assume that the broadband network field operations staff has completed the network upgrade and updates the broadband network deployment database **21** to reflect the geographic region of subscribers that have been newly enabled. This information is transmitted to the automation server **6**   The information is correlated to individual subscriber information by the automation server **6** and the resulting subscriber records are updated in the subscriber database **24**.   Personnel of the ISP **5** may determine which of the individual subscribers should be targeted for the broadband upgrade, or it may be done automatically.   One set of criteria for this selection may be the subscriber profile database and collection mechanism as described in the '602 application.

An alternate flow for the customer acquisition automation is possible where the automation server **6** directly accesses the broadband deployment database **21**. In this model, the subscribers may be qualified against the broadband deployment database **21** as desired by the ISP **5**.

The result of this data correlation is a list of consumers within the broadband network that physically qualify for broadband access service. Certain members of this

list may be existing narrowband customers who may be targets for conversion to broadband. Other members of the list will be consumers with no existing network access who may be targeted for broadband service initiation. It is assumed that the network service provider will use this list to actively market and engage these customers. As a

5   part of this process, the agent software is made available to the consumer. Several options are possible for this deployment. The software may be actively distributed to the field through direct mailing or marketing methods. The software may also be resident on an internet based host and available for download by the consumer. The software may also be pre-loaded into the consumers PC by the manufacturer. Regardless of the

10   delivery mechanism, the agent software is assumed to be loaded and available on the consumer's machine for the remaining automation processes.

The automation flow continues when a subscriber responds to the service provider's marketing efforts and requests broadband service. Several models exist for the specific flow but it is assumed that the active agent software on the subscriber's

15   machine is activated. The agent software contains information and logic that enables the automation process to proceed during the initial phase where the subscriber machine **1** is not connected to the network. In this phase, the machine is tested and configured for the automation steps that follow. This may include the configuration of a baseline or default network access method. It may also include the detection and use of an existing

20   narrowband access method. In any case, the goal of this automation is to facilitate the connection of the subscriber machine **1** to the automation server **6**. This begins a control dialog between the agent **4** and the server **6**. In this exemplary description, this dialog is of the nature described in the '602 application.

The dialog between the agent **4** and the automation server **6** is used to guide the

25   subscriber to and step them through a service selection process where the requested broadband service is advertised and selected for purchase by the subscriber. The content and forms required for this direct sales mechanism may be located within the automation server **6** or within any traditional network hosting server within the ISP **5**. All of the variables and workflow of this process are managed through the control dialog between

30   the agent **4** and the automation server **6**.

In any of the above cases, it is assumed that the subscriber selects a broadband service for purchase. At this point, the automation agent **4** will be notified when the user accepts the service offering through the control dialog with the automation server **6**. The next phase of process automation begins when the automation agent **4** receives this

5   signal, and the subscriber installation then proceeds to the qualification stage discussed in connection with **Fig. 3**.

Fig. 3 shows an exemplary model for continuing the broadband configuration process by qualifying the subscriber computer and physical equipment for broadband service availability. The variety of service offerings in the previous phase might require

10   differing levels of capability and conditions of the subscriber machine **1** and broadband connection for success. These requirements are contained as a workflow process within the automation server **6**, and are communicated to the agent **4** based upon the service that was selected. The automation agent **4** within the subscriber computer **1** is activated to perform this workflow process which represents a series of tasks that have been tailored

15   for the specific broadband access network **8** and service offering desired. The definition of these tasks and the activation sequence may be under the control of a distributed control network, such as the one described in the '602 application. The service availability process could take several forms because it is dependent on the physical broadband media in use. Several options will be described here but it is not intended that

20   all possible scenarios be listed in this document.

The automation agent **4** may be directly integrated with the internal broadband modem **3** or the external broadband modem **11** in such a way as to control and sense this device directly and determine broadband network availability. In other words, the modem **3** or **11** could be instructed by the agent software **4** to access the broadband

25   network physical layer and collect the basic success or failure of this operation as well as the reporting of the various data elements associated with that individual broadband connection. This information will be collected by the agent **4** and communicated to the automation server **6** and/or used locally by the agent **4** to modify the automation workflow. Specifically in a Data over Cable installation, the agent could instruct the

30   cable modem to detect carrier signal from the network and the signal strengths and error

codes that were detected during that connection attempt. This information would be collected and used as described above.

An additional test is possible for DSL deployments. The automated agent could use the narrowband modem 2 to contact a DSL line qualification server 38 to test the

5   physical line outside the scope of the broadband access network 8. The subscriber loop characteristics would be collected by the automation agent 4 and used as input to the workflow as described above.

All results of this service availability phase can be processed by the automation agent 4 for basic pass/fail status as well as potential quality of service information to be

10   used during the subscription process. This information is then used to allow a confident decision to be made by the subscriber to purchase the service, and place a service order. Should the subscriber activate the order process, the next automation phase begins to fulfill that broadband service order.

As shown in **Fig. 4**, the next phase of the automated process fulfills the

15   subscriber's order for the broadband service. This step includes all network provisioning, account and billing system updates such that the entire process from order placement to fulfillment is automated from the subscriber's perspective. Typical broadband order fulfillment requires several workdays between order placement and fulfillment. This is due to the fact that there are still individual tasks that must be manually completed by the

20   service provider's field operations group. During this period, it is assumed that the agent software 4 is still resident on the subscriber's machine and is periodically able to establish a connection to the automation server 4 or other control host within the ISP network. The agent software 4 may utilize the dial-up Internet connection using the existing narrowband modem 2 and the narrowband access network 7 to the ISP 5 or the

25   broadband modem device 3 or 11 in its baseline or default configuration mode. The purpose of this connection is to establish the control dialog between the automation agent 4 and the automation server 6 for additional status and workflow instructions as the fulfillment process proceeds.

The automated order fulfillment process begins with the automation agent 4

30   communicating the order request and all service availability information obtained during the previous automation phase to the automation server 6. The automation server 6 then

begins a workflow process to complete the ordering process for all physical network assets as well as all account and billing database updates. The automation server **6** collects all subscriber and broadband modem provisioning and configuration information and transmits this information to the activation agent **4** through the control dialog connection as described above. Note that this final sequence is transmitted only upon successful order fulfillment. If the process fails at any point, the subscriber may be notified of the order status by the automation server **6** and agent **4** dialog process..

The delivery of the final provisioning and configuration information to the automation agent **4** begins the final automation step of the process. **Fig. 5** shows the final step of provisioning all components of the subscriber installation for broadband access and beginning of service. The automation agent **4** uses the provisioning and configuration information delivered by the automation server **6** in the previous phase to configure individual parameters within each of the service affecting modules of the subscriber computer **1**. Examples of these modules are listed below but as will be appreciated by one of skill in the art, additional modules are possible and this list is not intended to be complete or all-inclusive.

At a base level, the automation agent can provision the computer networking software **58** for broadband service. All provisioning and configuration information that is required for the broadband modem **3** or **11** to access the network **8** may be directly implemented. The agent **4** software performs this provisioning by directly interfacing to each of the required modules. All network configuration and provisioning is entered into the broadband modem device directly. The various software elements resident within the subscriber machine **1** are directly configured for the desired operation by the agent. This process is contained with a workflow description that has been defined for each of these operations. The agent **4** receives the requested workflow(s) from the automation server **6** via the control dialog as described above. The agent **4** executes this workflow performing all required operations and collecting and reporting all requested status parameters. A record of each workflow step and its resulting status is collected by the agent **4** and forwarded the automation server **6** for inclusion into the subscriber profile database **24**, as shown in **Fig. 2**.

The automation process terminates with the subscriber computer **1** successfully connecting to the ISP **5** through the broadband network **8.**

The foregoing discussion is included to demonstrate preferred embodiments of the invention. It should be appreciated by those of skill in the art that the structure and techniques disclosed in the examples above represent structure and techniques discovered by the inventor to function well in the practice of the invention, and thus can be considered to constitute preferred modes for its practice. However, those of skill in the art should, in light of the present disclosure, appreciate that many changes can be made in the specific embodiments which are disclosed and still obtain a like or similar result without departing from the spirit and scope of the invention, which are set forth in the claims to follow.

WHAT IS CLAIMED IS:

1.   A method of converting a personal computer for communicating information on a broadband communication network, said personal computer having a user and a physical location, comprising:

5   determining whether said physical location falls within a set of service boundaries for said broadband communication network;

if said physical location falls within said service boundaries, electronically offering said user access to said broadband communication network;

10   receiving from said user an electronic order accepting said offer;

remotely qualifying said personal computer for said broadband communication network by determining whether said personal computer meets predetermined acceptance criteria for use of said broadband communication network; and

15   fulfilling said order by initiating an automation agent on said personal computer to interact with a user and thereby configure said personal computer for access to said broadband communication network.

20   2.   The conversion method of claim 1, wherein said broadband communication network is a DSL network.

3.   The conversion method of claim 2, wherein said qualifying step further comprises using a narrowband modem to contact a DSL line qualification server to test a physical 25   line outside of said broadband communication network.

4.   The conversion method of claim 1, wherein said broadband communication network is a cable network.

30   5.   The conversion method of claim 4, wherein qualifying step further comprises detecting a carrier signal from said broadband communication network.

6.   The conversion method of claim 5, wherein said carrier signal has a signal strength and a set of error codes, and wherein said qualifying step is based at least in part upon said signal strength and said error codes.

5

7.   The conversion method of claim 1, wherein said user is selected for said offer based on preestablished criteria.

8.   The conversion method of claim 6, wherein at least some of said criteria are 10   stored in a subscriber profile database.

9.   The conversion method of claim 1, wherein said broadband communication network is an ISDN network.

15   10.   The conversion method of claim 1, wherein said broadband communication network is a wireless network.

11.   A system for configuring a personal computer for communicating over a broadband communication network, said system comprising:

20   an automation agent software program residing on said personal computer; and

            an automation server remote from but in electrical communication with said personal computer, wherein said automation server is configured to receive from said personal computer an electronic

25   order, in response to such order to remotely qualify said personal computer for said broadband communication network by determining whether said personal computer meets predetermined acceptance criteria for use of said broadband communication network; and automatically fulfilling said order by initiating said

30   automation agent on said personal computer to configure said

personal computer for access to said broadband communication network.

12.   The configuration system of claim 11, wherein said broadband communication

5   network is a DSL network.

13.   The configuration system of claim 12, wherein said automation agent instantiates a narrowband modem to contact a DSL line qualification server to test a physical line.

10   14.   The configuration system of claim 11, wherein said broadband communication network is a cable network.

15.   The configuration system of claim 14, wherein said automation agent instantiates detection of a carrier signal from said broadband communication network.

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16.   The configuration system of claim 15, wherein said carrier signal has a signal strength and a set of error codes, and wherein said signal strength and said error codes are used by said automation agent when qualifying said personal computer.

20   17.   The configuration system of claim 11, wherein said user is selected for said offer based on preestablished criteria.

18.   The configuration system of claim 17, wherein at least some of said criteria are stored in a subscriber profile database.

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19.   The configuration system of claim 11, wherein said broadband communication network is an ISDN network.

20.   The configuration system of claim 11, wherein said broadband communication

30   network is a wireless network.

21.   Control software for configuring a personal computer for communicating over a broadband network, said personal computer having a user, said control software comprising:

      an automation agent software program residing on said personal computer, wherein said automation agent software comprises:

         a network availability module for determining whether said broadband communication network is accessible to said personal computer within a set of predetermined parameters; and

         an order fulfillment module for guiding said user to input a set of required configuration information and to guide said user through said configuration from start to finish

22.   The control software of claim 21, wherein said automation agent software further comprises a communications module for communicating said set of required configuration information to an automation server.

23.   The control software of claim 22, wherein said broadband communication network is a DSL network.

24.   The control software of claim 23, wherein said network availability module instantiates a narrowband modem to contact a DSL line qualification server to test a physical line.

25.   The control sofware of claim 22, wherein said broadband communication network is a cable network.

26.   The control software of claim 25, wherein said network availability module instantiates detection of a carrier signal from said broadband communication network.

27.   The control software of claim 26, wherein said carrier signal has a signal strength and a set of error codes, and wherein said signal strength and said error codes are used by said network availability module when qualifying said personal computer.

5

28.   The control software of claim 22, wherein said broadband communication network is an ISDN network.

29.   The control software of claim 22, wherein said broadband communication network is a wireless network.

10

SYSTEM OF AUTOMATED CONFIGURATION OF NETWORK SUBSCRIBERS

FOR BROADBAND COMMUNICATION

5

Abstract of the Disclosure

The invention relates to a new system and method for process automation system that allows the conversion of a narrowband consumer Internet user into a broadband (e.g., DSL, ISDN, or Data over Cable) Internet user. In an alternative embodiment, the new

10   system and method is used to configure an original broadband connection. The system includes automation agent software residing on the personal computer that is being configured for broadband communication, and an automation server associated with the manager of the broadband network. The automation agent software guides the user through the steps of testing and ordering the service, automates the configuring of the

15   personal computer for broadband communication, and communicates with the automation server to complete the registration, billing and other administrative processes.
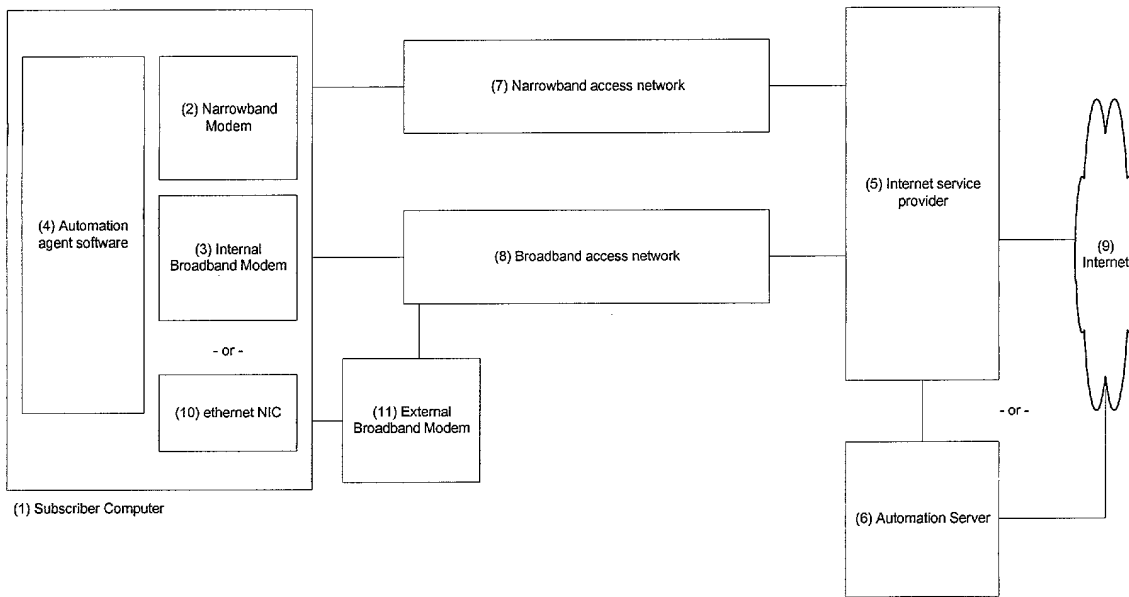
20   Austin:146731 v 1

Figure 1
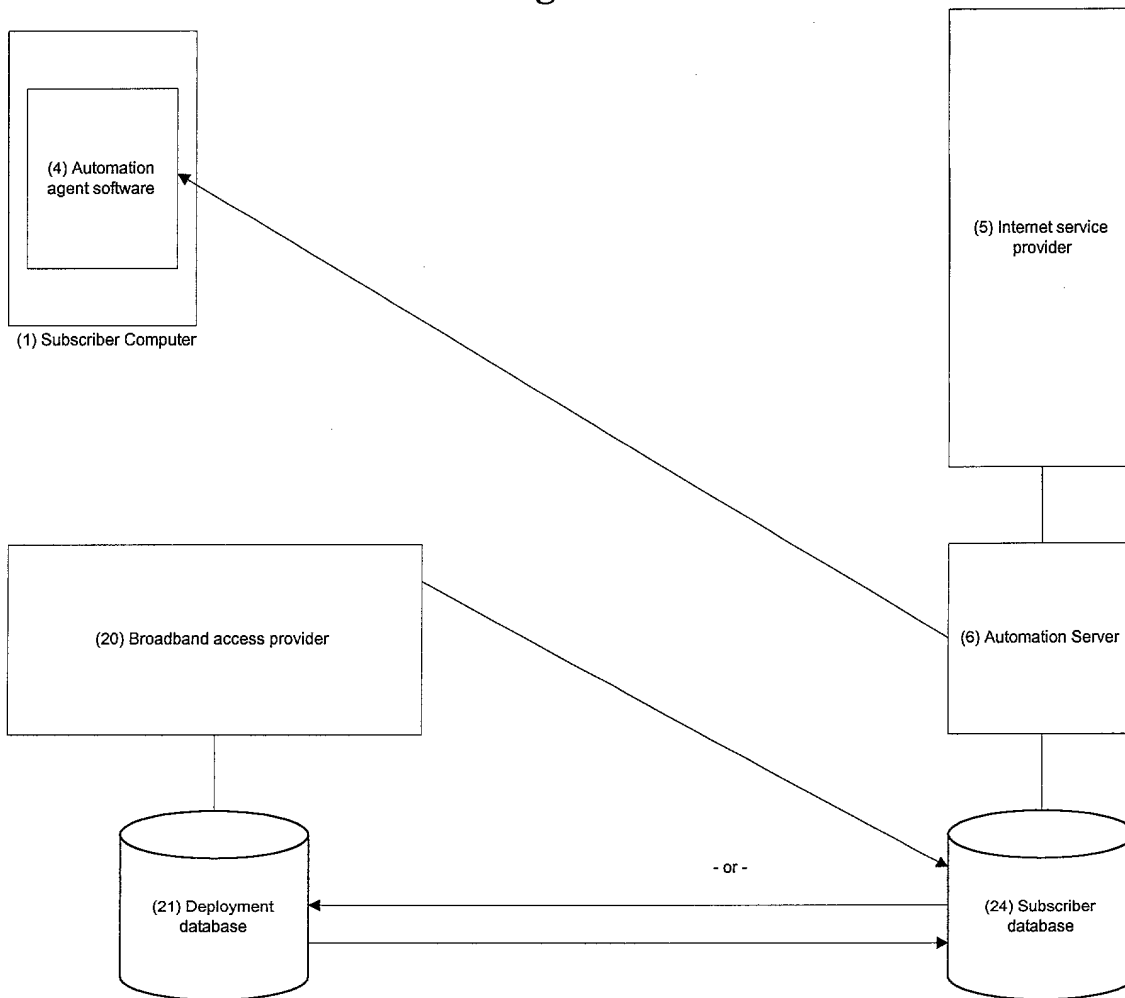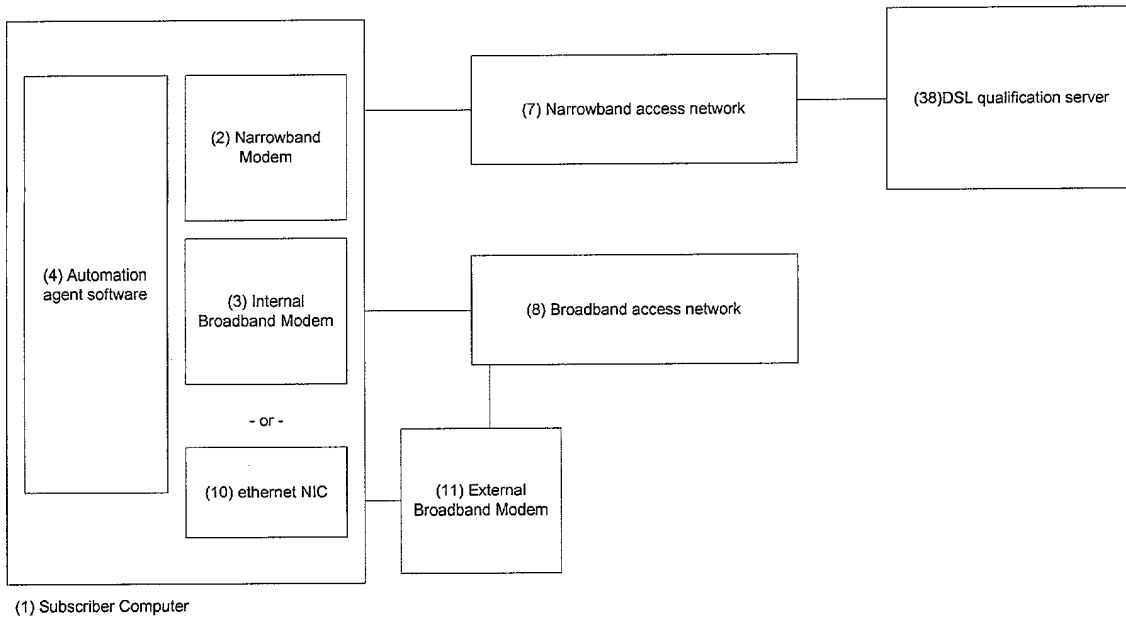

Figure 2
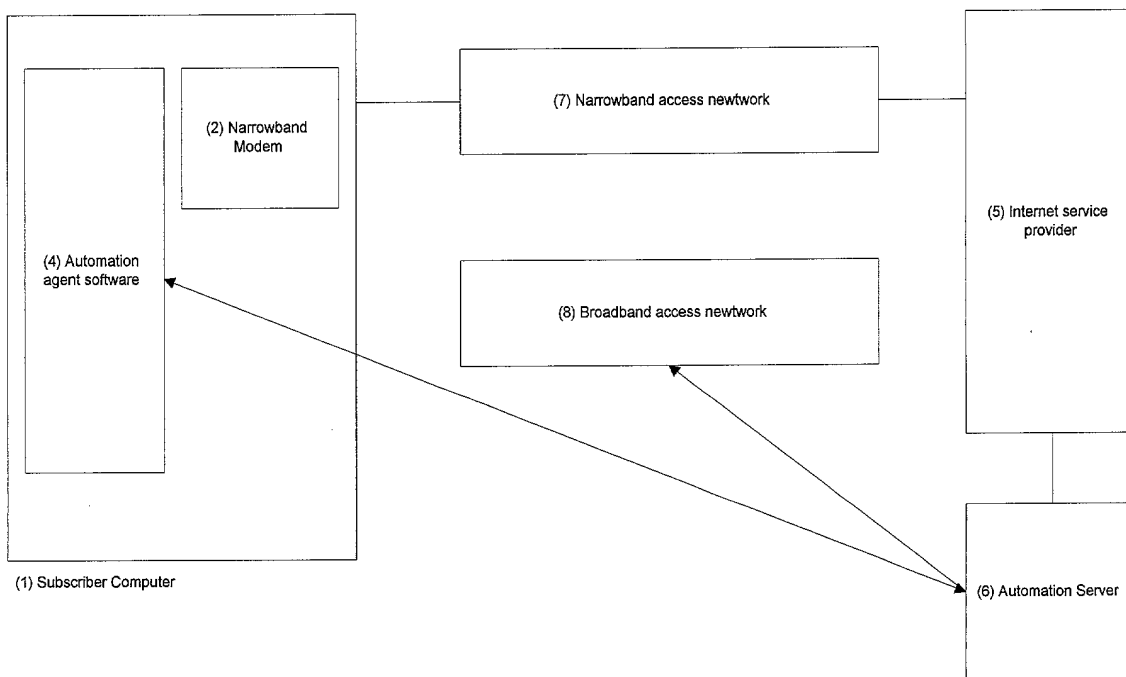
Figure 3

Figure 4

Figure 5

Austin:143423 v 1

DECLARATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

The below named inventors are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled **SYSTEM OF AUTOMATED CONFIGURATION OF NETWORK SUBSCRIBERS FOR BROADBAND COMMUNICATION**, the Specification of which:

☒ is attached hereto.
☐ was filed on _____ as Application Serial No. _____.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.
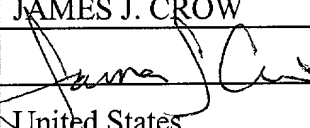
I acknowledge the duty to disclose to the Patent and Trademark Office all information known to me to be material to patentability of the subject matter claimed in this application, as "materiality" is defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose all information known to me to be material to patentability of the subject matter claimed in this application, as "materiality" is defined in Title 37, Code of Federal Regulations, § 1.56, which become available between the filing date of the prior application and the national or PCT international filing date of this application:

Application Serial No.	Filing Date	Status

I hereby direct that all correspondence and telephone calls be addressed to Andrew G. DiNovo, VINSON & ELKINS L.L.P., 2300 First City Tower, 1001 Fannin Street, Houston, Texas 77002-6760, (512) 495-8521.

Austin:147470v1

I hereby declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Inventor's Full Name:	JAMES J. CROW	
Inventor's Signature:	*[signature]*	
Country of Citizenship:	United States	Date: August 30, 2000
Residence Address: (street, number, city, state, and/or country)	10803 LEAFWOOD LN. AUSTIN TX 78750	
Post Office Address: (if different from above)		

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
    James J. Crow

Serial No.: Unknown

Filing Date: August 30, 2000

For: SYSTEM OF AUTOMATED CONFIGURATION OF
    NETWORK SUBSCRIBERS FOR BROADBAND
    COMMUNICATION

Group Art Unit: Unknown

Examiner: Unknown

Atty. Dkt. No.: BRO039/4-001

ELECTION UNDER 37 C.F.R. §§ 3.71 AND 3.73
AND POWER OF ATTORNEY

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

    The undersigned, being Assignee of record of the entire interest in the above-identified application by virtue of an assignment recorded in the United States Patent and Trademark Office as set forth below, hereby elects, under 37 C.F.R. § 3.71, to prosecute the application to the exclusion of the inventor.

    The Assignee hereby revokes any previous Powers of Attorney and appoints:

    Andrew G. DiNovo (Reg. No. 40,115); Willem G. Schuurman (Reg. No. 29,998);
    Gregory L. Porter (Reg. No. 40,131); Minh-Hien Nguyen (Reg. No. 37,294);
    Adam V. Floyd (Reg. No. 39,192); Stephen J. Moloney (Reg. No. P-44,947); and
    Tracey B. Davies (Reg. No. 44,644).

each an attorney or agent of the firm of VINSON & ELKINS L.L.P., as its attorney or agent for so long as they remain with such firm, with full power of substitution and revocation, to prosecute the application, to make alterations and amendments therein, to transact all business in the Patent and Trademark Office in connection therewith, and to receive any Letters Patent, and for one year after issuance of such Letters Patent to file any request for a certificate of correction that may be deemed appropriate.

    Pursuant to 37 C.F.R. § 3.73, the undersigned has reviewed the evidentiary documents, specifically the Assignment to BroadJump, Inc., referenced below, and certifies that to the best of my knowledge and belief, title remains in the name of the Assignee.

Please direct all communications as follows:

Andrew G. DiNovo
VINSON & ELKINS L.L.P.
2300 First City Tower
1001 Fannin Street
Houston, Texas 77002-6760

ASSIGNEE:

BROADJUMP, INC.

By: _____
Name: James J. Crow
Title: Chief Technology Officer

Date: _Aug 30, 2000_____

ASSIGNMENT:
  ☒ Concurrently filed
  ☐ Previously recorded
   Date: _____
   Reel: _____
   Frames: